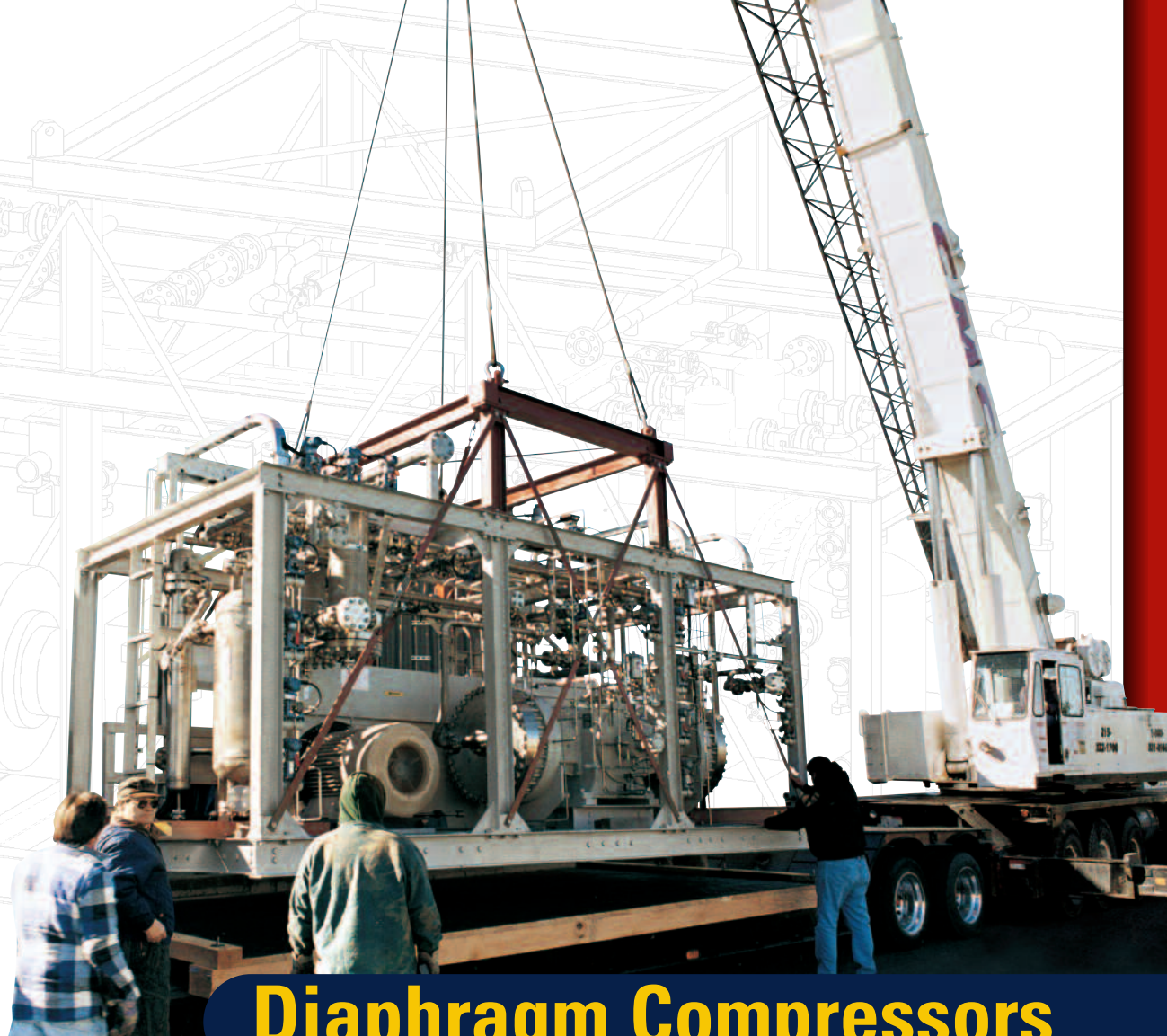


Compressors



Diaphragm Compressors

Designed and
Constructed for
High Reliability and
Low Maintenance



www.pdcmachines.com

Providing World-Class Diaphragm Compressors

Utilizing a powerful combination of **engineering and manufacturing excellence** and a dedication to working with our customers, Pdc provides engineered solutions to satisfy difficult gas compression needs.

The leak-tight and contamination-free features of **Pdc's diaphragm compressors** provide numerous benefits. When toxic or hazardous gases are being processed, these compressors **protect the health of workers** and the environment, and maintain a safe operating area. Since the process gases are **totally isolated** and have no contact with hydraulic, lubricating, or cooling fluids, high-purity and expensive gases can be processed **without any contamination or losses**.

Some of the other features and benefits of Pdc's diaphragm compressors include:

- Design pressures to over 4,100 bar / 60,000 psig
- Gas flow rates over 1,500 Sm³/hour / 880 Scfm
- Fast-acting leak detection systems to indicate diaphragm and seal failure
- Safe, non-flammable hydraulic fluid used for oxygen and other oxidizing gas applications
- Single and multiple stage configurations for high compression ratios
- Horizontally opposed designs available for high-efficiency operation
- Electric and air-driven models
- Process contacting metals are available in a variety of alloys for compatibility with process gases
- Process contacting seals are available in a variety of elastomers and ductile metals for compatibility with process gases
- Unique cavity design feature for low or high-pressure operations

Experience, Reliability & Service

Pdc is committed to continuous product improvement and the development of innovative designs and manufacturing processes to maximize compressor performance and value.

Drawing on our decades of experience and the use of our proprietary software for sizing, stress analysis, and detailed engineering drawings, Pdc provides **high reliability and low maintenance** diaphragm compressors. These compressors demonstrate **superior diaphragm life** as a result of our **cavity contour design**, our exclusive diaphragm manufacturing process, and critical quality control. All models include **automatic positive priming and injection pumps** to reduce knocks, cavitation, and vibration for smooth start-up and operation. Critical components are manufactured and verified to exacting tolerances utilizing **computer numerical controlled (CNC) machining and coordinate measurement (CMM) quality control**.

After assembly, every compressor is subjected to **rigorous in-house testing** and is made available for customer inspection. Each unit also includes an **O & M Manual** with drawings and component details. **Pdc stocks critical spare parts for quick shipment** and offers **responsive technical and field support** when the need arises.

PDC-5-550. 60 hp motor 40" diameter head, CE/ATEX compliant, Hydrogenation, plant application.



Technological Leadership

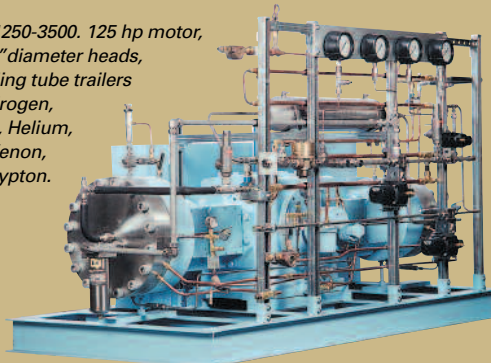
The advanced horizontally-opposed crankcase designs used in many of Pdc's duplex and 2-stage compressors yield numerous advantages.

- Energy efficiency
- Easy maintenance
- Minimal unbalanced forces
- All compression loading on rod
- Reduced load on crankshaft bearings
- No troublesome transition assembly
- Duplex units that start up under high inlet pressure without unloading
- Low horsepower requirements
- Duplex units are capable of compressing different gases simultaneously

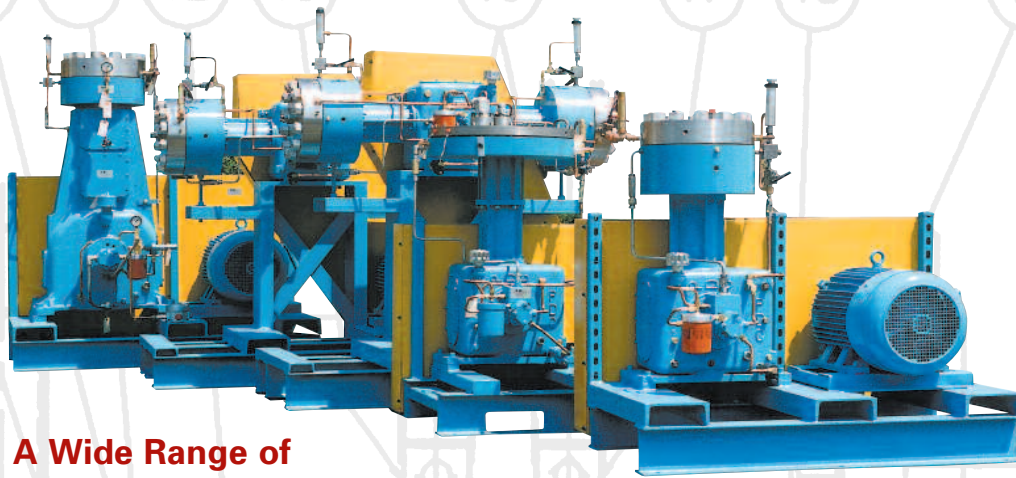


PDC-3-600-2500. 15 hp. 16" & 11" diameter heads, Hydrogen compressor for cooling power generators.

PDC-13-1250-3500. 125 hp motor, 30" & 29" diameter heads, Filling filling tube trailers with Hydrogen, Nitrogen, Helium, Argon, Xenon, Neon, Krypton.



PDC-5-100-350. 40 hp motor, 40" & 29" diameter heads, Vinyl Fluoride service, 100% radio graphed welded piping, Plant application.



Serving Industry

Pdc compressors are used in virtually every industry in which high-purity, rare, or hazardous gases are utilized. Some specific uses include:

- Flammable, oxidizing, toxic, and radioactive gases
- Gas cylinder filling
- Gas blending and mixing systems
- Gas transfer and filling and off-loading of tube trailers
- Chemical and petrochemical gas processing systems
- Gases for electronics, semiconductor, and fiber optics manufacturing
- Pressure boosting and storage of gases from on-site gas generation systems
- Pressure boosting for gas recycling systems
- High-pressure gas storage systems
- Hydrogen gas systems at electric power plants
- Hydrogenation systems
- Supercritical fluids and solvent extraction systems
- Research and Development

A Wide Range of Compressor Solutions

Based on our extensive experience in compressor technology and our state-of-the-art engineering and manufacturing capabilities, we work with our customers to provide the optimum solution to satisfy their gas compression needs. Pdc provides both standard and custom-designed compressors with a comprehensive assortment of options. We furnish a wide range of equipment from basic units to turnkey, skid-mounted, and computer controlled systems.

“We work with our customers to provide the optimum solution to satisfy their gas compression needs.”

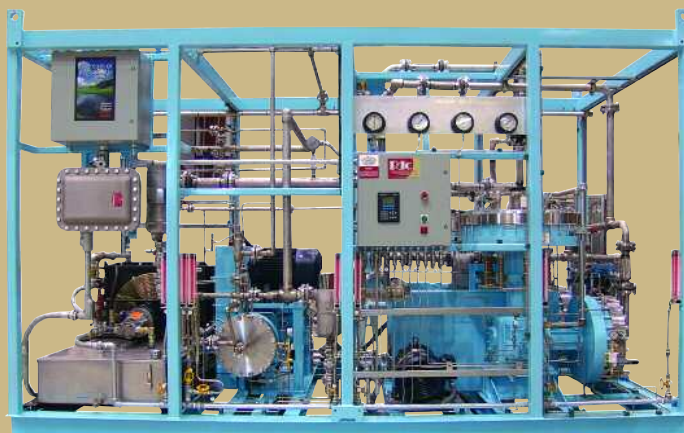
We also offer:

- Modular field expandable designs that can be effected with minimal effort and cost for changing gas compression needs
- The shortest turnaround in the industry. Popular models can be delivered in as few as 6 to 8 weeks
- Control system design and configuration
- On complex compressor systems, Pdc provides a 3-D solid modeling of your system so you can easily visualize the equipment layout, process arrangement, and serviceability of our design before construction begins
- Compressors designed and constructed to comply with American and international applicable codes and standards such as ASME, CE (ATEX, PED), CSA, UL, KHK, etc.
- Complete compressor construction and assembly in-house
- Exceptional product value

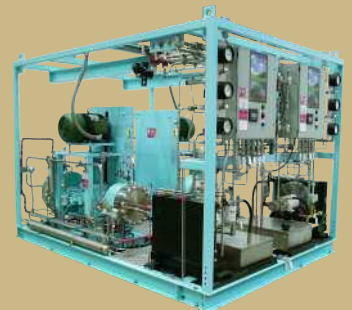
Diaphragm Compressors

Compressors for a wide spectrum of gases

Air	Nitrous oxide	Silane	TFE
Ammonia	Oxygen	Sulfur dioxide	Xenon
Argon	Phosphine	Sulfur hexafluoride	Other gases
Carbon dioxide	Propane	Tritium	& gas mixtures
Carbon monoxide			
Chlorine			
Deuterium			
Ethane			
Ethylene			
Fluorine			
Freon			
Helium			
Hydrogen			
Hydrogen sulfide			
Krypton			
Methane			
Monomer vapors			
Natural gas			
Neon			
Nitrogen			
Nitrogen trifluoride			



PDC-4-40-200 & PDC-4-800-800. (2) 30 hp motors, 35", 26" & 18" diameter heads, Development & validation of hydrogen purification equipment (PSA).

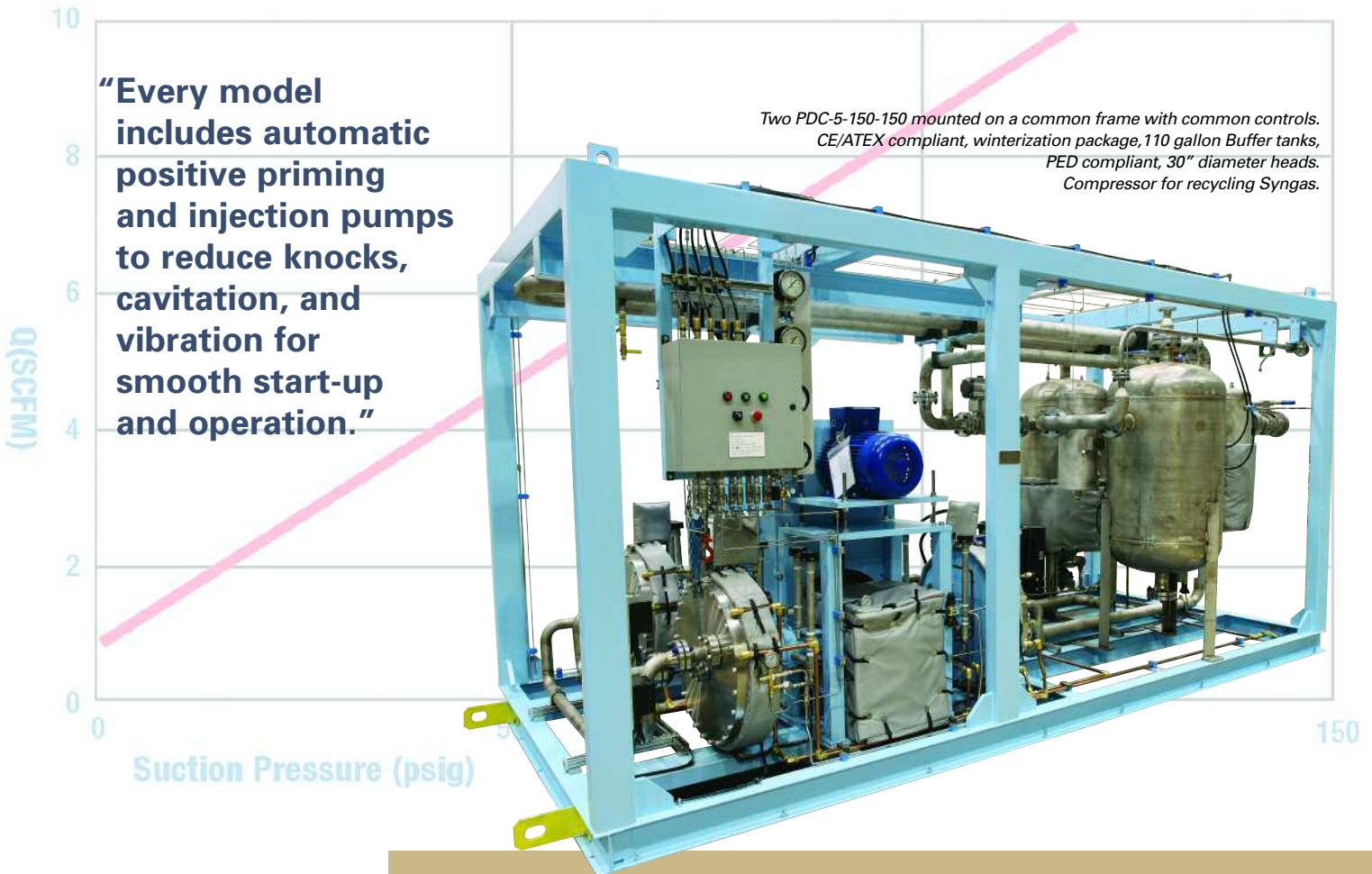


Two independent PDC-4-600-3000 (150) compressors mounted on a common skid. Two, 20 hp motors, 18" & 20" diameter heads, Compressors are used in the semi-conductor industry.



12,000 psi (827 barg) discharge pressure, for fuel cell applications.

Flow Curve



General Compressor Specifications:

Series	Maximum Discharge Pressure		Maximum hp
	bar	psig	
PDC-3	1,000	15,000	15
PDC-3 Duplex	1,000	15,000	15
PDC-4	4,100	60,000	30
PDC-4 Duplex	517	7,500	30
GD-5	517	7,500	75
GD-5 Duplex	517	7,500	75
PDC-7	517	7,500	100
PDC-8	517	7,500	125
PDC-13	517	7,500	350
PDC-13 Duplex	517	7,500	350

Pdc provides a wide variety of compressor options to satisfy your particular application. We furnish gas conditioning hardware, process instrumentation, dryers, accumulators, closed-loop cooling systems, other ancillary equipment, and systems controls. Controls may be simple relay based, PLC, or PC systems.

Other Quality Products from Pdc:

- Reactors
- Magnetic Mixers
- Syringe Pumps
- Lab Scale Reaction Systems
- Pilot Plants



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